

LAMPIRAN

Lampiran 1. *Ethical Clearance*



**KOMISI ETIK PENELITIAN
POLITEKNIK KESEHATAN KEMENKES MALANG**

**REKOMENDASI PERSETUJUAN ETIK
ETHICAL APPROVAL RECOMMENDATION
Reg.No.:216 / KEPK-POLKESMA/ 2018**

Komisi Etik Penelitian Kesehatan Politeknik Kesehatan Malang telah menyelenggarakan Pertemuan pada tanggal 14 Mei 2018 untuk membahas protokol penelitian

The Ethic Committee of Polytechnic of Health The Ministry of Health in Malang has convened a meeting on 14May 2018 to discuss the research protocol

Judul Peneliti **Pengaruh Pemberian Biskuit Tempe-Kelor terhadap Kadar**
Entitled **Malondialdehyde (MDA) pada Tikus Wistar Jantan Model Gizi Kurang**

The Influence of Tempe-KelorTMs Biscuit on The Malondialdeyde (MDA)
Level of Malnutrition Wistar Rats

Peneliti **Mega Rosa Febriyanti**
Researcher

Dan menyimpulkan bahwa protokol tersebut **telah memenuhi semua persyaratan etik**
And concluded that the protocol has fulfilled all ethical requirements

Malang, 14 Mei 2018

Dr. ANNASAREMUSTAFA, MSc.
Head of Committee

Lampiran 2. Surat Keterangan Penelitian

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | KEMENTERIAN KESEHATAN RI BADAN PENGEMBANGAN DAN PEMBERDAYAAN SUMBER DAYA MANUSIA KESEHATAN POLITEKNIK KESEHATAN KEMENKES MALANG |  |
| <small>- Kampus Utama : Jalan Besar Ijen No. 77 C Malang 65112. Telepon (0341) 566075, 571388 Fax (0341) 556746 - Kampus I : Jalan Srikoyo No. 106 Jember. Telepon (0331) 486613 - Kampus II : Jalan Ahmad Yani Sumberporong Lawang, Telepon (0341) 427847 - Kampus III : Jalan Dr. Soetomo No. 46 Blitar. Telepon (0342) 801043 - Kampus IV : Jalan KH. Wakhid Hasyim No. 64 B Kediri. Telepon (0354) 773095</small> | | |
| <small>Website: http://www.poltekkes-malang.ac.id E-mail: direktorat@poltekkes-malang.ac.id</small> | | |
| <hr/> SURAT KETERANGAN Nomor: LLU. 4. A. 101 / VIII / 2018 | | |
| <p>Yang bertandatangan di bawah ini, Kepala Laboratorium Layanan Umum (LLU), Analisis Kesehatan, dan Ilmu Kesehatan Dasar menerangkan bahwa :</p> | | |
| Nama | : Mega Rosa Febriyanti | |
| NIM | : 1403410018 | |
| Prodi / Jurusan | : D-IV Gizi / Gizi | |
| Universitas | : Poltekkes Kemenkes Malang | |
| <p>Benar-benar telah melakukan penelitian di Laboratorium Hewan Coba pada tanggal 14 Mei – 28 Juni 2018 guna penyusunan Skripsi dengan judul "Pengaruh Pemberian Biskuit Tempe Kelor terhadap Kadar <i>Malondialdehyde</i> (MDA) pada Tikus Wistar Gizi Kurang".</p> | | |
| <p>Surat keterangan ini dibuat agar dapat digunakan sebagaimana mestinya.</p> | | |
|  Kepala Laboratorium Layanan Umum (LLU), Analisis Kesehatan dan Ilmu Kesehatan Dasar Dr. Nur Rahman, STP.,MP NIP. 19650913 198903 1 003 | | |

Lampiran 3. Randomisasi Tikus Percobaan

| No | Angka Acak | Rangking |
|-----------|-------------------|-----------------|
| 1. | 682 | 16 |
| 2. | 443 | 9 |
| 3. | 176 | 1 |
| 4. | 582 | 10 |
| 5. | 177 | 2 |
| 6. | 604 | 11 |
| 7. | 995 | 21 |
| 8. | 897 | 20 |
| 9. | 184 | 3 |
| 10. | 384 | 6 |
| 11. | 657 | 14 |
| 12. | 339 | 5 |
| 13. | 396 | 7 |
| 14. | 649 | 12 |
| 15. | 977 | 22 |
| 16. | 420 | 8 |
| 17. | 651 | 13 |
| 18. | 701 | 17 |
| 19. | 722 | 18 |
| 20. | 751 | 19 |
| 21. | 669 | 15 |
| 22. | 324 | 4 |

Lampiran 4. Ekstrapolasi

Usia Tikus ke Manusia

Usia Tikus = **Usia Manusia**

2 tahun = 70 tahun

730 hari = 70 tahun

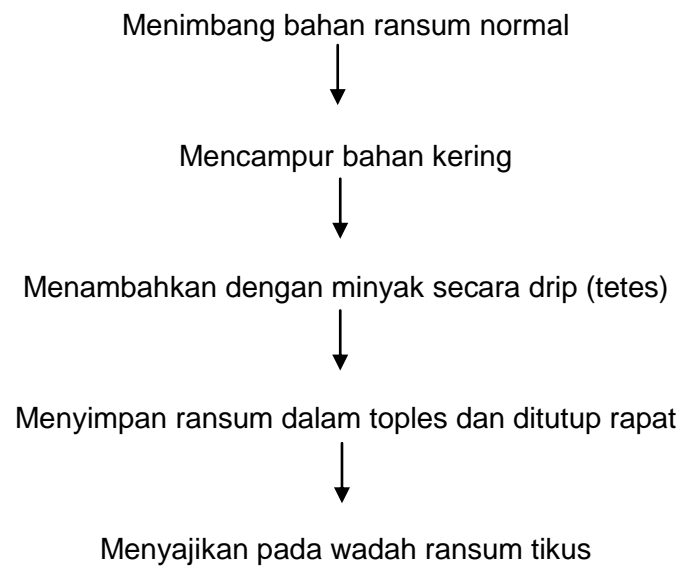
73 hari = 7 tahun

10,4 hari = 1 tahun

Jadi, 10,4 hari usia tikus setara dengan 1 tahun usia manusia. Pada penelitian ini menggunakan tikus umur 4-5 minggu yang setara dengan 2,8 – 3,5 tahun usia manusia. Sejalan dengan penelitian Anggraeny dkk (2016) yang menggunakan tikus wistar jantan berusia 4-5 minggu dengan berat badan 100-120 gram.

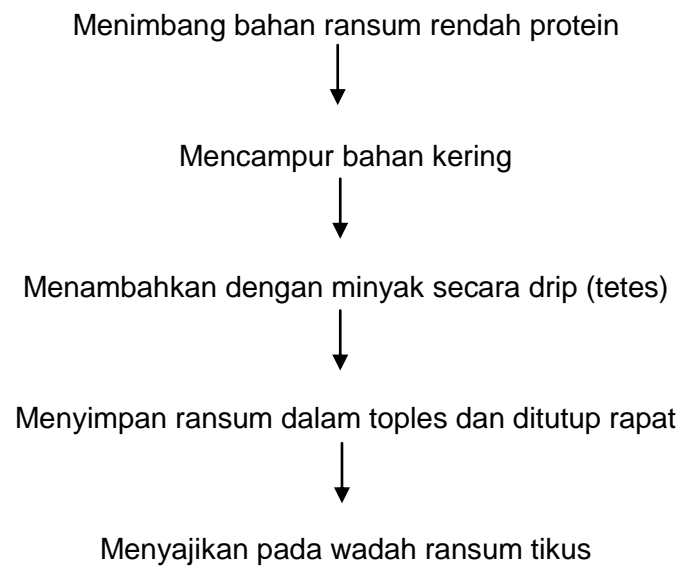
Lampiran 5. Pembuatan Ransum Normal

Prosedur pembuatan ransum normal sebagai berikut;



Lampiran 6. Pembuatan Ransum Rendah Protein

Prosedur pembuatan ransum rendah protein sebagai berikut;



Lampiran 7. Jumlah Kebutuhan Bahan Penelitian

| No | Uraian | Rincian | Kebutuhan (gram) |
|-----------|-------------------------------------------------------------------------------------------|-----------------------------|-------------------------|
| 1 | Ransum Normal | | |
| | a. Waktu adaptasi | 27 ekor x 15 gram x 4 hari | 1620,00 |
| | b. Untuk kelompok tikus kontrol dengan ransum normal (P ₁) selama 42 hari | 12 ekor x 15 gram x 42 hari | 7560,00 |
| | c. Untuk kelompok tikus gizi kurang dengan ransum normal (P ₂) selama 28 hari | 8 ekor x 15 gram x 28 hari | 3360,00 |
| | Total Kebutuhan <i>Ransum normal</i> Modifikasi | | 12540,00 |
| 2 | Ransum Rendah Protein | 20 ekor x 15 gram x 14 hari | 4200,00 |
| | Total Kebutuhan Ransum Rendah Protein | | 4200,00 |
| 3 | Ransum Biskuit Tempe-Kelor | 7 ekor x 15 gram x 28 hari | 2940,00 |
| | Total Kebutuhan Biskuit Tempe-Kelor | | 2940,00 |
| 4 | Air Mineral | 27 ekor x 25 ml x 46 hari | 31050,00 |
| | Total Kebutuhan Air Mineral | | 31050,00 |

Lampiran 8. Anggaran / Biaya Penelitian

| No | Uraian | Kebutuhan | Harga Satuan | Harga (Rp) |
|----------|---------------------------------------------------|------------------------------|--------------------|------------------|
| 1 | Skripsi | | | |
| | a. Cetak | 500 lembar | 300/lembar | 150.000 |
| | b. Penjilidan | 6 proposal | 3000/proposal | 18.000 |
| | c. Map Plastik | 3 buah | 2000/buah | 6.000 |
| 2 | Pengajuan / Permohonan Etik | | | |
| | a. Transfer Komisi Etik | 1 Permohonan Etik Penelitian | 170.000/penelitian | 170.000 |
| | b. Cetak Permohonan Penelitian (untuk Presentasi) | 120 lembar | 300/lembar | 36.000 |
| | c. Konsumsi | 5 kotak | 10.000/kotak | 50.000 |
| 3 | Bahan Penelitian | | | |
| | a. Tikus Wistar | 27 ekor | 25.000/ekor | 675.000 |
| | b. Ransum Normal | | | |
| | - Susu Skim | 5211,6 gram | 32.500/500gram | 338.754 |
| | - Pati Jagung | 4775,3 gram | 19.000/kg | 90.731 |
| | - Minyak Jagung | 1575,6 gram | 36.500/L | 57.509 |
| | - Mineral Mix | 213,2 gram | 5.000/kg | 1.065 |
| | - Vitamin Mix | 121,2 gram | 5.000/10gram | 60.600 |
| | - Selulosa | 121,2 gram | 2.700/5gram | 65.448 |
| | - Air | 484,8 gram | 5.600/1,5L | 35.600 |
| | c. Ransum Bebas Protein | | | |
| | - Pati Jagung | 3360 gram | 32.500/500gram | 218.400 |
| | - Minyak Jagung | 336 gram | 36.500/L | 12.264 |
| | - Mineral Mix | 210 gram | 5.000/kg | 1.050 |
| | - Vitamin Mix | 42 gram | 5.000/10gram | 21.000 |
| | - Selulosa | 42 gram | 2.700/5gram | 22.680 |
| | - Air | 210 ml | 5.600/1,5L | 784 |
| | d. Ransum Biskuit Tempe-Kelor | 2940 gram | 10.000/65gram | 452.307 |
| | e. Air Mineral | 31050 ml | 5.600/1,5L | 115.920 |
| 4 | Pembedahan dan Uji Laboratorium | | | |
| | a. Tabung Eppendrof | 11 buah | 500/buah | 5500 |
| | b. Jarum Suntik (1ml) | 11 buah | 1500/kotak | 16.500 |
| | c. Jarum Suntik (3 ml) | 11 buah | 2500/buah | 27.500 |
| | d. Vacum tube | 11 buah | 1100/buah | 12.100 |
| | e. Kloroform | 1 botol | 50000/botol | 50.000 |
| | f. Sewa alat bedah | 1 paket | 1 paket | 5.500 |
| | g. Biaya laboran dan laboratorium | 1 paket | 1 paket | 150.000 |
| | h. Uji kadar MDA | 11 sampel | 22.500/sampel | 247.500 |
| 5 | Transportasi | 6 liter | 8.600/liter | 51.600 |
| | Σ Kebutuhan Biaya Penelitian | | | 3.165.312 |

Lampiran 9. Data Asupan Ransum Tikus Selama Penelitian

| Taraf Perlakuan | | Asupan Ransum (gram) | | | | | | | | |
|-----------------|---|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | Hari ke-1 | Hari ke-2 | Hari ke-3 | Hari ke-4 | Hari ke-5 | Hari ke-6 | Hari ke-7 | Hari ke-8 | Hari ke-9 |
| P ₁ | 2 | 9 | 6 | 3 | 3 | 5 | 4 | 4 | 2 | 3 |
| | 4 | 6 | 3 | 4 | 5 | 4 | 4 | 4 | 3 | 4 |
| | 6 | 4 | 5 | 3 | 4 | 8 | 6 | 6 | 5 | 3 |
| P ₂ | 4 | 3 | 2 | 2 | 3 | 7 | 4 | 7 | 3 | 5 |
| | 6 | 4 | 4 | 6 | 6 | 7 | 6 | 6 | 6 | 6 |
| P ₃ | 1 | 9 | 5 | 5 | 6 | 8 | 6 | 4 | 6 | 9 |
| | 2 | 4 | 5 | 5 | 4 | 5 | 6 | 7 | 3 | 4 |
| | 3 | 5 | 3 | 3 | 3 | 5 | 4 | 5 | 6 | 6 |
| | 4 | 6 | 6 | 4 | 6 | 7 | 5 | 5 | 5 | 6 |
| | 5 | 4 | 3 | 3 | 5 | 5 | 3 | 5 | 6 | 6 |
| | 6 | 4 | 5 | 2 | 4 | 4 | 4 | 6 | 2 | 3 |
| Taraf Perlakuan | | Asupan Ransum (gram) | | | | | | | | |
| | | Hari ke-10 | Hari ke-11 | Hari ke-12 | Hari ke-13 | Hari ke-14 | Hari ke-15 | Hari ke-16 | Hari ke-17 | Hari ke-18 |
| P ₁ | 2 | 5 | 5 | 4 | 4 | 5 | 5 | 5 | 3 | 3 |
| | 4 | 4 | 3 | 5 | 6 | 4 | 4 | 4 | 6 | 5 |
| | 6 | 6 | 3 | 4 | 5 | 5 | 6 | 7 | 5 | 4 |
| P ₂ | 4 | 4 | 5 | 4 | 5 | 6 | 6 | 9 | 4 | 6 |
| | 6 | 5 | 6 | 6 | 7 | 7 | 6 | 5 | 5 | 5 |
| P ₃ | 1 | 6 | 8 | 6 | 7 | 8 | 6 | 6 | 2 | 8 |
| | 2 | 4 | 5 | 4 | 6 | 7 | 4 | 6 | 6 | 6 |
| | 3 | 2 | 5 | 5 | 6 | 8 | 5 | 7 | 9 | 8 |
| | 4 | 6 | 6 | 3 | 8 | 7 | 6 | 5 | 2 | 6 |
| | 5 | 1 | 7 | 0 | 5 | 5 | 7 | 6 | 8 | 2 |
| | 6 | 4 | 3 | 7 | 6 | 7 | 5 | 5 | 5 | 5 |

| Taraf Perlakuan | | Asupan Ransum (gram) | | | | | | | | |
|-----------------|---|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | Hari ke-19 | Hari ke-20 | Hari ke-21 | Hari ke-22 | Hari ke-23 | Hari ke-24 | Hari ke-25 | Hari ke-26 | Hari ke-27 |
| P ₁ | 2 | 0 | 4 | 5 | 5 | 5 | 4 | 5 | 4 | 1 |
| | 4 | 5 | 8 | 5 | 4 | 4 | 4 | 5 | 4 | 2 |
| | 6 | 3 | 6 | 7 | 8 | 9 | 6 | 6 | 7 | 6 |
| P ₂ | 4 | 4 | 3 | 4 | 6 | 6 | 6 | 4 | 4 | 2 |
| | 6 | 7 | 4 | 3 | 0 | 2 | 1 | 6 | 4 | 5 |
| P ₃ | 1 | 4 | 4 | 9 | 6 | 5 | 6 | 6 | 4 | 3 |
| | 2 | 2 | 4 | 6 | 2 | 4 | 5 | 6 | 4 | 4 |
| | 3 | 5 | 6 | 5 | 7 | 6 | 5 | 5 | 5 | 4 |
| | 4 | 1 | 4 | 1 | 2 | 2 | 2 | 9 | 4 | 4 |
| | 5 | 4 | 2 | 6 | 6 | 8 | 4 | 7 | 6 | 6 |
| 6 | 2 | 4 | 7 | 4 | 7 | 7 | 7 | 4 | 0 | |
| Taraf Perlakuan | | Asupan Ransum (gram) | | | | | | | | |
| | | Hari ke-28 | Hari ke-29 | Hari ke-30 | Hari ke-31 | Hari ke-32 | Hari ke-33 | Hari ke-34 | Hari ke-35 | Hari ke-36 |
| P ₁ | 2 | 4 | 2 | 2 | 3 | 3 | 4 | 3 | 3 | 3 |
| | 4 | 4 | 6 | 4 | 3 | 4 | 4 | 4 | 3 | 4 |
| | 6 | 7 | 7 | 6 | 4 | 5 | 4 | 5 | 5 | 3 |
| P ₂ | 4 | 4 | 3 | 5 | 5 | 5 | 4 | 5 | 1 | 4 |
| | 6 | - | - | - | - | - | - | - | - | - |
| P ₃ | 1 | 6 | 5 | 6 | 7 | 8 | 9 | 5 | 7 | 8 |
| | 2 | 6 | 7 | 5 | 4 | 7 | 6 | 9 | 7 | 6 |
| | 3 | 5 | 6 | 4 | 5 | 6 | 6 | 4 | 5 | 5 |
| | 4 | 8 | 6 | 2 | 2 | 2 | 6 | 7 | 8 | 9 |
| | 5 | 6 | 8 | 6 | 7 | 8 | 6 | 5 | 8 | 6 |
| | 6 | 5 | 4 | 3 | 2 | 7 | 7 | 10 | 7 | 6 |

| Taraf Perlakuan | | Asupan Ransum (gram) | | | | | | | | |
|-----------------|---|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | Hari ke-37 | Hari ke-38 | Hari ke-39 | Hari ke-40 | Hari ke-41 | Hari ke-42 | Hari ke-43 | Hari ke-44 | Hari ke-45 |
| P ₁ | 2 | 3 | 2 | 3 | 3 | 5 | 2 | 4 | 4 | 6 |
| | 4 | 4 | 4 | 3 | 3 | 5 | 2 | 3 | 5 | 6 |
| | 6 | 3 | 3 | 3 | 3 | 8 | 5 | 2 | 4 | 4 |
| P ₂ | 4 | 2 | 3 | 2 | 1 | 3 | 1 | 6 | - | - |
| | 6 | - | - | - | - | - | - | - | - | - |
| P ₃ | 1 | 8 | 3 | 3 | 8 | 8 | 6 | 8 | 10 | 9 |
| | 2 | 7 | 7 | 8 | 4 | 7 | 8 | 7 | 1 | 10 |
| | 3 | 0 | 6 | 8 | 4 | 5 | 4 | 3 | 3 | 5 |
| | 4 | 10 | 3 | 4 | 7 | 4 | 8 | 8 | 9 | 8 |
| | 5 | 7 | 7 | 7 | 8 | 8 | 7 | 8 | 7 | 9 |
| | 6 | 8 | 4 | 9 | 1 | 1 | 4 | 2 | 5 | 4 |

Lampiran 10. Hasil Analisis Asupan Ransum

1. Hasil Analisis selama Pengamatan

| Kelompok Perlakuan | | Rata – rata asupan tahap adaptasi | Rata – rata asupan tahap pengkondisian | Rata – rata asupan tahap perlakuan |
|--------------------|---|-----------------------------------|----------------------------------------|------------------------------------|
| P ₁ | 1 | - | - | - |
| | 2 | 5 | 4,07 | 3,4 |
| | 3 | - | - | - |
| | 4 | 5 | 4,28 | 4,14 |
| | 5 | - | - | - |
| | 6 | 4 | 5,21 | 5,14 |
| P ₂ | 1 | - | - | - |
| | 2 | - | - | - |
| | 3 | - | - | - |
| | 4 | 2,5 | 5,35 | 3,72 |
| | 5 | - | - | - |
| | 6 | 5 | 5,92 | 3,55 |
| P ₃ | 1 | 6,26 | 6,42 | 6,33 |
| | 2 | 4,5 | 5,21 | 5,66 |
| | 3 | 3,5 | 5,78 | 4,88 |
| | 4 | 5,5 | 5,50 | 5,18 |
| | 5 | 3,75 | 4,71 | 6,55 |
| | 6 | 3,75 | 4,71 | 4,85 |

2. Rata-rata Asupan Energi per Hari Tikus

| Kelompok Perlakuan | Rata-rata asupan energi tahap adaptasi (kalori) | Rata-rata asupan energi tahap pengkondisian (kalori) | Rata-rata asupan energi tahap perlakuan (intervensi) (kalori) | Rata-rata asupan energi total (kalori) |
|--------------------|-------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|----------------------------------------|
| P ₁ | 19,35 ± 2,39 | 18,74 ± 2,51 | 17,52 ± 3,62 ^a | 18,54 ± 1,30 |
| P ₂ | 15,55 ± 7,32 | 20,55 ± 1,47 | 15,07 ± 0,50 ^a | 17,05 ± 2,76 |
| P ₃ | 18,33 ± 5,16 | 19,56 ± 2,18 | 25,35 ± 3,33 ^b | 21,11 ± 2,95 |
| p-value | 0,707 | 0,704 | 0,006 | 0,174 |

3. Rata-rata Asupan Protein per Hari Tikus

| Kelompok Perlakuan | Rata-rata asupan protein tahap adaptasi (gram) | Rata-rata asupan protein tahap pengkondisian (gram) | Rata-rata asupan protein tahap perlakuan (intervensi) (gram) | Rata-rata asupan protein total (gram) |
|--------------------|------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------|---------------------------------------|
| P ₁ | 0,73 ± 0,08 | 0,71 ± 0,096 | 0,66 ± 0,14 ^a | 0,70 ± 0,05 ^a |
| P ₂ | 0,58 ± 0,27 | 0,01 ± 0,007 | 0,57 ± 0,14 ^a | 0,39 ± 0,08 ^b |
| P ₃ | 0,71 ± 0,17 | 0,01 ± 0,005 | 0,90 ± 0,12 ^b | 0,54 ± 0,08 ^c |
| p-value | 0,626 | 0,033 | 0,013 | 0,007 |

4. Hasil Uji Statistik

- **One Way Anova terhadap Asupan Tahap Adaptasi**

Descriptives

Asupan

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum |
|-------|----|--------|----------------|------------|----------------------------------|-------------|---------|
| | | | | | Lower Bound | Upper Bound | |
| P1 | 3 | 4.6667 | .57735 | .33333 | 3.2324 | 6.1009 | 4.00 |
| P2 | 2 | 3.7500 | 1.76777 | 1.25000 | -12.1328 | 19.6328 | 2.50 |
| P3 | 6 | 4.5417 | 1.11149 | .45377 | 3.3752 | 5.7081 | 3.50 |
| Total | 11 | 4.4318 | 1.05529 | .31818 | 3.7229 | 5.1408 | 2.50 |

Test of Homogeneity of Variances

Asupan

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 2.170 | 2 | 8 | .177 |

ANOVA

Asupan

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|------|------|
| Between Groups | 1.168 | 2 | .584 | .469 | .642 |
| Within Groups | 9.969 | 8 | 1.246 | | |
| Total | 11.136 | 10 | | | |

- **One Way Anova terhadap Asupan Tahap Pengkondisian**

Descriptives

Asupan

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum |
|-------|----|--------|----------------|------------|----------------------------------|-------------|---------|
| | | | | | Lower Bound | Upper Bound | |
| P1 | 3 | 4.5200 | .60671 | .35029 | 3.0128 | 6.0272 | 4.07 |
| P2 | 2 | 5.6350 | .40305 | .28500 | 2.0137 | 9.2563 | 5.35 |
| P3 | 6 | 5.3883 | .66065 | .26971 | 4.6950 | 6.0816 | 4.71 |
| Total | 11 | 5.1964 | .71128 | .21446 | 4.7185 | 5.6742 | 4.07 |

Test of Homogeneity of Variances

Asupan

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| .433 | 2 | 8 | .663 |

ANOVA

Asupan

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 1.978 | 2 | .989 | 2.568 | .138 |
| Within Groups | 3.081 | 8 | .385 | | |
| Total | 5.059 | 10 | | | |

- **One Way Anova terhadap Asupan Tahap Perlakuan (Intervensi)**

Descriptives

Asupan

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum |
|-------|----|--------|----------------|------------|----------------------------------|-------------|---------|
| | | | | | Lower Bound | Upper Bound | |
| P1 | 3 | 4.2267 | .87323 | .50416 | 2.0574 | 6.3959 | 3.40 |
| P2 | 2 | 3.6350 | .12021 | .08500 | 2.5550 | 4.7150 | 3.55 |
| P3 | 6 | 5.5750 | .73383 | .29959 | 4.8049 | 6.3451 | 4.85 |
| Total | 11 | 4.8545 | 1.07255 | .32339 | 4.1340 | 5.5751 | 3.40 |

Test of Homogeneity of Variances

Asupan

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 1.956 | 2 | 8 | .203 |

ANOVA

Asupan

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 7.272 | 2 | 3.636 | 6.873 | .018 |
| Within Groups | 4.232 | 8 | .529 | | |
| Total | 11.504 | 10 | | | |

Lampiran 11. Data Berat Badan Tikus Selama Penelitian

| Tarf Perlakuan | | Penimbangan Berat Badan (gram) Ke- | | | | | | | | | | | | | |
|-------------------|---|------------------------------------|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| P ₁ | 2 | 56 | 53 | 49 | 46 | 46 | 46 | 46 | 43 | 52 | 41 | 41 | 39 | 39 | 40 |
| | 4 | 52 | 53 | 44 | 43 | 35 | 43 | 44 | 41 | 40 | 40 | 40 | 36 | 37 | 39 |
| | 6 | 67 | 61 | 58 | 58 | 59 | 59 | 58 | 60 | 58 | 60 | 58 | 52 | 59 | 55 |
| P ₂ | 4 | 46 | 44 | 38 | 33 | 35 | 35 | 32 | 32 | 31 | 33 | 33 | 30 | 27 | 31 |
| | 6 | 58 | 54 | 52 | 49 | 58 | 46 | 42 | 34 | 39 | 43 | - | - | - | - |
| P ₃ | 1 | 50 | 51 | 46 | 44 | 40 | 45 | 53 | 60 | 70 | 81 | 93 | 101 | 110 | 117 |
| | 2 | 45 | 42 | 45 | 43 | 41 | 42 | 52 | 58 | 74 | 72 | 78 | 84 | 90 | 85 |
| | 3 | 49 | 45 | 37 | 33 | 31 | 39 | 46 | 51 | 55 | 59 | 67 | 71 | 73 | 70 |
| | 4 | 47 | 45 | 40 | 37 | 39 | 37 | 40 | 53 | 68 | 50 | 71 | 81 | 83 | 99 |
| | 5 | 49 | 46 | 40 | 40 | 41 | 41 | 49 | 57 | 63 | 72 | 81 | 86 | 95 | 103 |
| | 6 | 53 | 50 | 40 | 38 | 35 | 34 | 44 | 49 | 52 | 59 | 69 | 75 | 73 | 75 |

Lampiran 12. Hasil Analisis Berat Badan

1. Penurunan Berat Badan pada Tahap Pengkondisian Gizi Kurang

| Kelompok Perlakuan | | Berat badan pada akhir adaptasi | Berat badan pada akhir pengkondisian gizi kurang | Presentase penurunan berat badan (%) |
|--------------------|---|---------------------------------|--------------------------------------------------|--------------------------------------|
| P2 | 1 | - | - | - |
| | 2 | - | - | - |
| | 3 | - | - | - |
| | 4 | 46 | 35 | 24 |
| | 5 | - | - | - |
| | 6 | 56 | 42 | 25 |
| P3 | 1 | 50 | 40 | 20 |
| | 2 | 45 | 41 | 9 |
| | 3 | 49 | 31 | 37 |
| | 4 | 47 | 39 | 17 |
| | 5 | 49 | 41 | 16 |
| | 6 | 53 | 35 | 34 |

2. Hasil Berat Badan selama Pengamatan

| Kelompok Perlakuan | | Berat badan pada akhir adaptasi | Berat badan pada akhir pengkondisian | Berat badan pada akhir perlakuan |
|--------------------|---|---------------------------------|--------------------------------------|----------------------------------|
| P1 | 1 | - | - | - |
| | 2 | 56 | 46 | 40 |
| | 3 | - | - | - |
| | 4 | 52 | 35 | 39 |
| | 5 | - | - | - |
| | 6 | 67 | 59 | 55 |
| P2 | 1 | - | - | - |
| | 2 | - | - | - |
| | 3 | - | - | - |
| | 4 | 46 | 35 | 31 |
| | 5 | - | - | - |
| | 6 | 56 | 42 | 37 |
| P3 | 1 | 50 | 40 | 117 |
| | 2 | 45 | 41 | 85 |
| | 3 | 49 | 31 | 70 |
| | 4 | 47 | 39 | 99 |
| | 5 | 49 | 41 | 103 |
| | 6 | 53 | 35 | 75 |

3. Hasil Uji Statistik

- **One Way ANOVA Berat Badan pada Akhir Adaptasi**

Descriptives

BB

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|-------|----|---------|----------------|------------|----------------------------------|-------------|---------|---------|
| | | | | | Lower Bound | Upper Bound | | |
| P1 | 3 | 58.3333 | 7.76745 | 4.48454 | 39.0379 | 77.6288 | 52.00 | 67.00 |
| P2 | 2 | 51.1250 | 7.24784 | 5.12500 | -13.9943 | 116.2443 | 46.00 | 56.25 |
| P3 | 6 | 48.8333 | 2.71416 | 1.10805 | 45.9850 | 51.6817 | 45.00 | 53.00 |
| Total | 11 | 51.8409 | 6.25927 | 1.88724 | 47.6359 | 56.0459 | 45.00 | 67.00 |

Test of Homogeneity of Variances

BB

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 4.051 | 2 | 8 | .061 |

ANOVA

BB

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 181.753 | 2 | 90.876 | 3.461 | .083 |
| Within Groups | 210.031 | 8 | 26.254 | | |
| Total | 391.784 | 10 | | | |

- **One Way ANOVA Berat Badan pada Akhir Pengkondisian**

Descriptives

BB

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum |
|-------|----|---------|----------------|------------|----------------------------------|-------------|---------|
| | | | | | Lower Bound | Upper Bound | |
| P1 | 3 | 46.6667 | 12.01388 | 6.93622 | 16.8225 | 76.5108 | 35.00 |
| P2 | 2 | 38.5000 | 4.94975 | 3.50000 | -5.9717 | 82.9717 | 35.00 |
| P3 | 6 | 37.8333 | 4.02078 | 1.64148 | 33.6138 | 42.0529 | 31.00 |
| Total | 11 | 40.3636 | 7.47359 | 2.25337 | 35.3428 | 45.3845 | 31.00 |

Test of Homogeneity of Variances

BB

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 2.037 | 2 | 8 | .193 |

ANOVA

BB

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 164.545 | 2 | 82.273 | 1.671 | .248 |
| Within Groups | 394.000 | 8 | 49.250 | | |
| Total | 558.545 | 10 | | | |

- **One Way Anova Berat Badan pada Akhir Perlakuan (Intervensi)**

Descriptives

BB

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum |
|-------|----|---------|----------------|------------|----------------------------------|-------------|---------|
| | | | | | Lower Bound | Upper Bound | |
| P1 | 3 | 44.6667 | 8.96289 | 5.17472 | 22.4016 | 66.9317 | 39.00 |
| P2 | 2 | 34.0000 | 4.24264 | 3.00000 | -4.1186 | 72.1186 | 31.00 |
| P3 | 6 | 91.5000 | 17.97498 | 7.33826 | 72.6364 | 110.3636 | 70.00 |
| Total | 11 | 68.2727 | 30.08684 | 9.07152 | 48.0601 | 88.4853 | 31.00 |

Test of Homogeneity of Variances

BB

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 3.371 | 2 | 8 | .087 |

ANOVA

BB

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|--------|------|
| Between Groups | 7258.015 | 2 | 3629.008 | 16.181 | .002 |
| Within Groups | 1794.167 | 8 | 224.271 | | |
| Total | 9052.182 | 10 | | | |

Post-Hoc Duncan

BB

Duncan


| PERLAKUAN | N | Subset for alpha = 0.05 | |
|-----------|---|-------------------------|---------|
| | | 1 | 2 |
| P2 | 2 | 34.0000 | |
| P1 | 3 | 44.6667 | |
| P3 | 6 | | 91.5000 |
| Sig. | | .408 | 1.000 |

Lampiran 13. Hasil Analisis Kadar *Malondialdehyde* (MDA)

1. Hasil Analisis Laboratorium

DATA UJI SERUM
KOLESTEROL TOTAL, TG, ALBUMIN DAN MDA
NAMA:

| NO | SAMPEL | ABS | K.TOTAL mg/dl | ABS | TG mg/dl | ABS | ALBUMIN g/dl | ABS | MDA nMol/ml |
|----|--------|-------|------------------|-------|-------------|-------|-----------------|-------|----------------|
| 1 | P 1.2 | 0,273 | 163,20 | 0,161 | 55,32 | 0,198 | 7,84 | 0,061 | 1,64 |
| 2 | P 1.4 | 0,202 | 106,40 | 0,133 | 31,49 | 0,19 | 7,44 | 0,06 | 1,61 |
| 3 | P 1.6 | 0,184 | 92,00 | 0,147 | 43,40 | 0,209 | 8,38 | 0,059 | 1,58 |
| 4 | P 2.4 | 0,269 | 160,00 | 0,438 | 291,06 | 0,215 | 8,68 | 0,06 | 1,61 |
| 5 | P 2.6 | 0,183 | 91,20 | 0,142 | 39,15 | 0,215 | 8,68 | 0,064 | 1,72 |
| 6 | P 3.1 | 0,164 | 76,00 | 0,129 | 28,09 | 0,259 | 10,85 | 0,059 | 1,58 |
| 7 | P 3.2 | 0,257 | 150,40 | 0,141 | 38,30 | 0,267 | 11,24 | 0,054 | 1,45 |
| 8 | P 3.3 | 0,225 | 124,80 | 0,129 | 28,09 | 0,276 | 11,68 | 0,061 | 1,64 |
| 9 | P 3.4 | 0,086 | 13,60 | 0,14 | 37,45 | 0,208 | 8,33 | 0,056 | 1,50 |
| 10 | P 3.5 | 0,177 | 86,40 | 0,139 | 36,60 | 0,292 | 12,47 | 0,055 | 1,47 |
| 11 | P 3.6 | 0,212 | 114,40 | 0,19 | 80,00 | 0,199 | 7,89 | 0,058 | 1,55 |


Anedies
The Triks weber

2. Hasil Uji Statistik *Oneway Anova* terhadap Kadar *Malondialdehyde* (MDA)

Descriptives

MDA

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum |
|-------|----|--------|----------------|------------|----------------------------------|-------------|---------|
| | | | | | Lower Bound | Upper Bound | |
| P1 | 3 | 1.6100 | .03000 | .01732 | 1.5355 | 1.6845 | 1.58 |
| P2 | 2 | 1.6650 | .07778 | .05500 | .9662 | 2.3638 | 1.61 |
| P3 | 6 | 1.5317 | .07195 | .02937 | 1.4562 | 1.6072 | 1.45 |
| Total | 11 | 1.5773 | .08051 | .02427 | 1.5232 | 1.6314 | 1.45 |

Test of Homogeneity of Variances

MDA

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 2.034 | 2 | 8 | .193 |

ANOVA

MDA

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | .031 | 2 | .016 | 3.686 | .073 |
| Within Groups | .034 | 8 | .004 | | |
| Total | .065 | 10 | | | |

Lampiran 14. Dokumentasi Penelitian

1. Bahan Ransum Penelitian



Susu Skim



Pati Jagung



Minyak Jagung



Mineral Mix



Serat



Vitamin Mix



Air

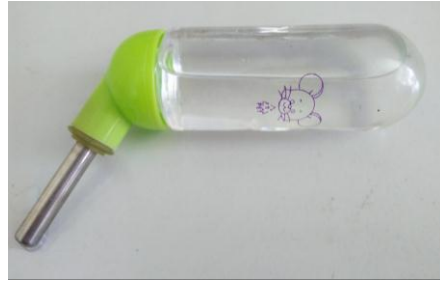


Biskuit Tempe-Kelor

2. Alat Pemeliharaan Hewan Coba



Kandang Metabolik



Tempat Minum

3. Proses Pemeliharaan



Penimbangan berat badan



Tikus P1



Tikus P2



Tikus P3

4. Alat Pembedahan dan Pengambilan Darah



Alat Bedah

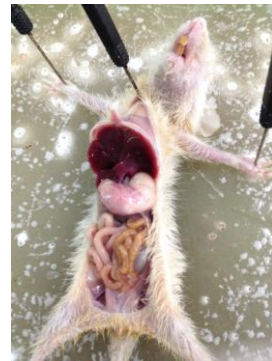


Alat Bedah

5. Proses Pembedahan dan Pengambilan Darah



Euthanasia



Proses pembedahan



Proses pengambilan darah

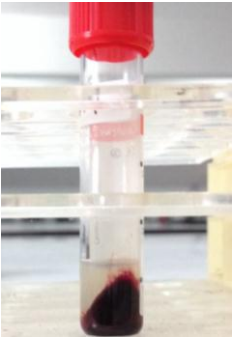


Darah sampel

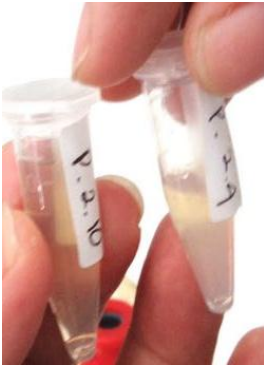
6. Proses Pembuatan Serum



Proses sentrifuge darah



Setelah di sentrifuge



Serum